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Michael Wurtz

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EXAMINER

OLANIRAN, FATIMAT O

ART UNIT

PAPER NUMBER

2615

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/796,526	Applicant(s) WURTZ, MICHAEL	
	Examiner FATIMAT O. OLANIRAN	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/25/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 11, 13, 14, 17-20, 29-40, 43 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9, 10, 12, 15, 16, 21-28, 41, 42, 44 and 46-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/25/2008 have been fully considered but they are not persuasive.

Applicant argues, "...one of skill would not recognize the level detector as being responsive to a perceived absence of acoustic energy based on user movements, when its stated purpose is to indicate pressure of the earcup against the head of the user."

Examiner respectfully disagrees, applicant claim 9 states, "...sensing acoustic energy based on user movement..." Jones col. 16 line 41-45 reads on this limitation because one of ordinary skill in the art would know that the movement of the user's head would effect the pressure between the earpiece and the user's head. A clear case of this is the removal of the headphones, the pressure between the user's head and earphones change with the headphones on or off. This pressure as disclosed by Jones affects the acoustic signal which is used to determine the operating state of the headphones. Therefore Jones reads on applicant's claim 9.

Claim 15, "...claim 15 requires sensing a condition based on user jaw movements or blood movements with a user's head and turning the apparatus off after a perceived absence of the condition..."

Examiner respectfully disagrees; applicant does not disclose what condition is being sensed by user's jaw movement or blood movement. Placing headphones on or moving

the head involves a user's blood movement and would result in a change in pressure between the earpiece and the user's head. Therefore Jones reads on this limitation.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 9-10, 12, 15, 56-58 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones (6118878).

Claim 9, Jones discloses an apparatus having at least an on state and an off or standby state (abstract line 21-25 an “on state” is inherent to the invention) and comprising: one or more earcups (col. 4 line 8-9); means for sensing acoustic energy based on user movement (col. 16 line 41-45); and means, responsive to a perceived absence of the acoustic energy based on user movement, for switching between the operating states the apparatus from the on state to the off or standby state (col. 17 line 13-15).

Claim 10, Jones discloses wherein the acoustic energy is inaudible (col. 16 line 41-45).

Art Unit: 2615

Claim 12, Jones discloses wherein the means for sensing acoustic energy based on user movement comprises a filter having an output coupled to a threshold detector (col. 16 line 63-64).

Claim 15 Jones discloses, apparatus having at least two operating states (abstract line 21-25) and comprising: one or more earcups (col. 4 line 8-9) circuitry for sensing a condition based on user jaw movements or blood movement within a user's head (col.16 line 41-45) and circuitry for changing the operating state of the headset from an on state to an off state in response to a perceived absence of the condition (col. 17 line 13-15).

Claim 56 Jones discloses, automatically determining whether acoustic signals produced by a user of the ANR circuitry are present within a cavity associated with the circuitry (col. 15 line 31-32 and col. 16 line 41-42); and automatically turning off the ANR circuitry in response to determining that the acoustic signals produced by the user are no longer present (col. 20 line 4-7).

Claim 57 Jones discloses, wherein the acoustic signals produced by the user are based on user blood flow (col.16 line 41-45 and col. 17 line 1-5).

Claim 58 Jones discloses, wherein automatically determining whether acoustic signals produced by the user are present comprises: producing a first output in response to operation of a microphone; filtering the first output to produce a filtered output (col. 19 line 41-43) and determining based on magnitude of the filtered output whether the acoustic signals produced by the user are present (col. 19 line 41-43 bandpass filter, col. 20 line 4-7 comparator and switch).

Claim 60 Jones discloses, wherein the cavity is at least partly defined by an earcup (col. 8 line 21-23).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16, 21-28, 47-48, 50-55, 59, 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6118878) in view of Lucey (5396551).

Claim 16 Jones does not disclose wherein the predetermined period of time is at least one minute and the circuitry for changing comprises analog circuitry.

Lucey discloses wherein the predetermined period of time is at least one minute and the circuitry for changing comprises analog circuitry (col. 1 line 54-55, Fig. 4). Therefore it

Art Unit: 2615

would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to have to conserve power more efficiently.

Claim 21 Jones discloses, an apparatus comprising: one or more earcups (col. 4 line 8-9); a microphone for sensing acoustic energy produced by user movement (col.16 line 41-45); and a switch responsive to the timer for switching ANR circuitry from an active state to an inactive state (col. 19 line 48-49 and col. 20 line 4-7). Jones does not disclose a timer for determining whether the acoustic energy is absent for at least a predetermined amount of time.

Lucey discloses a timer for determining whether the acoustic energy is absent for at least a predetermined amount of time (col. 1 line 54-55). Therefore it would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to have to conserve power more efficiently.

Claim 22 analyzed with respect to claim 21, Jones further discloses a threshold detector; and a microprocessor coupled to the threshold detector and to the switch (col. 21 line 25-27).

Claim 23 analyzed with respect to claim 21, Lucey further discloses wherein the predetermined amount of time is at least one minute (col. 4 line 11, "...two minutes...").

Art Unit: 2615

Claim 24 Jones discloses determining whether acoustic energy produced by the user has been sensed by the audio transducer (col.16 line 41-45); and switching at least a portion of the ANR circuitry from an active state to an inactive state in response to a determination that the acoustic energy has not been sensed (col. 19 line 48-49 and col. 20 line 4-7). Jones does not disclose for at least a predetermined amount of time. Lucey discloses for at least a predetermined amount of time (col. 4 line 11, "...two minutes..."). Therefore it would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to have to conserve power more efficiently.

Claim 25 analyzed with respect to claim 24, Jones in view of Lucey discloses wherein the acoustic energy is inaudible (Jones; col.16 line 41-45) and the predetermined amount of time is at least one minute (Lucey; col. 4 line 11, "...two minutes...").

Claim 26 analyzed with respect to claim 24, Jones further discloses wherein the apparatus includes an ANR driver (col. 13 line 2 switches 414, 416) and wherein the method further comprises switching the ANR circuitry from the inactive state to the active state in response to sensing deflection of a portion of the ANR driver (col. 13 line 2-6).

Claim 27 analyzed with respect to claim 24, Jones discloses wherein the acoustic energy is produced by user blood flow (col.16 line 41-45).

Claim 28 analyzed with respect to claim 24, Jones discloses wherein switching at least a portion of the ANR headset from an active state to an inactive state in response to a perceived absence of the condition (col. 19 line 48-49 and col. 20 line 4-7). Jones does not disclose starting timer in response to sensing the condition, with the timer configured to expire after measuring the predetermined amount of time; and switching at least the portion of the ANR headset from the active state to the inactive state in response to expiration of the timer.

Lucey discloses starting timer in response to sensing the condition, with the timer configured to expire after measuring the predetermined amount of time (col. 1 line 54-55); and switching at least the portion of the ANR headset from the active state to the inactive state in response to expiration of the timer (col. 2 line 2-8). Therefore it would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to have to conserve power more efficiently.

Claim 47 Jones discloses an apparatus comprising a filter to provide a filter output indicative of whether the apparatus is in normal use a threshold detector responsive to the filter output to provide a detector output (col. 16 line 63-64); and a switch responsive to the control signal to switch ANR circuitry from an active operating state to an inactive operating state (col. 19 line 48-49 and col. 20 line 4-7).

Art Unit: 2615

Jones does not disclose; a digital timer responsive to the detector output to start a timing period and responsive to completion of the timing period to produce a control signal

Lucey discloses a timer responsive to the detector output to start a timing period and responsive to completion of the timing period to produce a control signal (col. 4 line 9-12). Therefore it would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to have to conserve power more efficiently.

Jones in view of Lucey does not explicitly disclose a digital timer. However examiner takes Official notice on the limitation digital. Digital circuit means are well known in the art at the time of the invention. Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to implement the timer circuit of Lucey as a digital circuit in order to have a fast, efficient circuit that could be easily integrated and implemented on a chip.

Claim 48 analyzed with respect to claim 47, wherein the filter output signal is based substantially on acoustic energy produced by a user of the apparatus when the user is wearing at least a portion of the apparatus (col. 16 line 42-45 and col. 16 line 63-65).

Claim 50 analyzed with respect to claim 47, wherein the filter output is based on acoustic energy produced by user movement (col. 17 line 1-4 and lines 12-14).

Claim 51, Jones discloses: a switch for switching ANR circuitry from an active operating state to an inactive operating state; an controller means, responsive to cessation of intended usage of the apparatus, for controlling status of the switch, wherein the controller means included a microprocessor (col. 19 line 27-38).

Jones does not disclose timer means responsive to cessation of intended usage of the apparatus, for controlling status of the switch, wherein the timer means included a microprocessor.

Lucey discloses a timer, responsive to disengagement of at least a portion of the apparatus with or from a user, for controlling status of the switch (col. 4 line 9-12).

Therefore it would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to conserve power more efficiently.

Claim 52, analyzed with respect to claim 51, Jones in view of Lucey disclose wherein the timer means outputs a control signal to the switch after passage of a predetermined amount of time (Lucey; col. 4 line 9-12).

Claim 53 analyzed with respect to claim 51, Jones further discloses a bandpass filter responsive to operation of an ANR microphone to provide an output based substantially on acoustic energy produced by the user (col. 19 line 41-43).

Claim 55 analyzed with respect to claim 53 and claim 51, Jones discloses wherein the acoustic energy produced by the user is based on blood flow (col.16 line 41-45 and col. 17 line 1-5).

Claim 59 analyzed with respect to claim 52, Jones in view of Lucey further discloses wherein automatically turning off the ANR circuitry in response to determining that the acoustic signals are no longer present (Jones; col. 20 line 4-7). Lucey discloses initiating a time measurement in response to an affirmative determination that acoustic signals produced by the user are present and in response to the time measurement indicating passage of at least a predetermined amount of time (Lucey; col. 4 line 9-12).

Claim 61, Jones discloses a method comprising: sensing an electrical signal indicative of intended usage of an ANR headset having ANR circuitry (col. 19 line 18-24); and automatically turning off the ANR circuitry (col. 20 line 4-7).

Jones does not disclose in response to sensing the sensing the electrical signal, resetting a digital timer; in response to the digital timer measuring a predetermined amount of time without resetting,

Lucey discloses in response to sensing the sensing the electrical signal, resetting a timer (col. 4 line 43-46); in response to the timer measuring a predetermined amount of time without resetting, automatically turning off the circuitry (col. 4 line 9-17).

Art Unit: 2615

Therefore it would be obvious to one ordinarily skilled in the art to modify the power control circuitry of Jones with the timer circuit Lucey in order to conserve power more efficiently.

Jones in view of Lucey does not explicitly disclose a digital timer. However examiner takes Official notice on the limitation digital. Digital circuit means are well known in the art at the time of the invention. Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to implement the timer circuit of Lucey as a digital circuit in order to have a fast, efficient circuit that could be easily integrated and implemented on a chip.

Claim 62 analyzed with respect to claim 61, Jones discloses wherein automatically turning off the ANR circuitry occurs in response to a perceived absence of an electrical condition indicative of acoustic energy based on user movement (col. 17 line 1-5 and line 10-15).

5. Claims 41-42, 44, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6118878) in view of Cannelli et al (5072415).

Claim 41, Jones discloses comprising: ANR circuitry (col. 4 line 8-10); an input node for receiving a signal; and means, and a switch, responsive to the received signal, for switching the ANR circuitry from an active operating state to an inactive operating state (col. 19 line 33-41).

Jones does not disclose including a programmable timer.

Art Unit: 2615

Cannelli discloses including a programmable timer (col. 6 line 27-28).

Therefore it would be obvious to one ordinarily skilled in the art at the time the invention was made to modify the power control circuitry of Jones with the programmable timer circuit of Cannelli in order to have a circuit that can conserve power efficiently.

Claim 42 analyzed with respect to claim 41, Jones discloses a threshold detector responsive to the first output of the bandpass filter to provide a second output, wherein the switch is responsive to the second output (col. 19 line 41-43 bandpass filter, col. 20 line 4-7 comparator and switch).

Claim 44 analyzed with respect to claim 41, Jones discloses comprises a processor (col. 19 line 27-28, "controller") for outputting a control signal to the switch and (col. 19 line 33-37)

Jones does not disclose the timer comprises a processor for outputting a control signal to the switch after passage of a predetermined amount of time.

Cannelli discloses the timer and passage of a predetermined amount of time (col. 6 line 27-28).

Therefore it would be obvious to one ordinarily skilled in the art at the time the invention was made to modify the power control circuitry of Jones with the programmable timer circuit of Cannelli in order to have a circuit that can conserve power efficiently.

Claim 46, analyzed with respect to claim 41, Jones discloses wherein the signal is based on acoustic energy produced by a user of the apparatus (col.16 line 41-45).

6. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6118878) in view of Lucey (5396551) in further view of Cannelli et al (5072415) in further view of Filliman (4045748) in further view of Cabot (5089981).

Claim 49 analyzed with respect to claim 47, Jones in view of Lucey disclose the threshold detector comprises analog circuitry and the switch comprises a transistor.

Jones in view of Lucey does not disclose wherein; the timer comprises a processor; the filter comprises analog circuitry that defines a passband of 1-5 Hertz.

Cannelli discloses the timer comprises a processor (col. 6 line 27-28). Therefore it would be obvious to one ordinarily skilled in the art at the time the invention was made to modify the circuit of Jones in view of Lucey with the processor of Cannelli in order to have a circuit that can be implemented on a chip.

Jones in view of Lucey and Cannelli does not disclose the filter comprises analog circuitry that defines a passband of 1-5 Hertz.

Cabot discloses a passband of 1-5 Hertz (col. 4 line 31-32). Therefore it would be obvious to one ordinarily skilled in the art at the time the invention was made to modify the circuit of Jones in view of Lucey and Cannelli with the passband of Cabot in order to have better frequency selectivity.

Jones in view of Lucey and Cannelli and Cabot does not disclose wherein the filter comprises analog circuitry.

Art Unit: 2615

Fillman discloses wherein the filter comprises analog circuitry.

Therefore it would be obvious to one ordinarily skilled in the art at the time the invention was made to modify the circuit of Jones in view of Lucey and Cannelli, and Cabot with the analog circuitry of Fillman in order to have a circuit that does not require an analog to digital converter.

7. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6118878) in view of Lucey (5396551) in further view of Cabot (5089981).

Claim 54 analyzed with respect to claim 53 and claim 51, Jones in view of Lucey does not disclose wherein the bandpass filter has a passband of 1-5 Hertz.

Cabot discloses wherein the bandpass filter has a passband of 1-5 Hertz (col. 4 line 31-32). Therefore it would be obvious to one ordinarily skilled in the art at the time the invention was made to modify the circuit of Jones with the passband of Cabot in order to have a narrow bandwidth filter and greater frequency resolution.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FATIMAT O. OLANIRAN whose telephone number is (571)270-3437. The examiner can normally be reached on M-F 10:00-6 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/796,526
Art Unit: 2615

Page 17

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2615